UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,013,609 B2
APPLICATION NO. : 10/087318
DATED : March 21, 2006
INVENTOR(S) : Gary J. Hydock

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

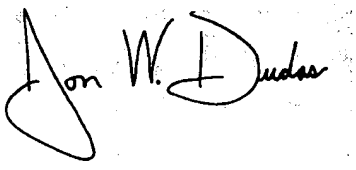
The title page, showing an illustrative figure, should be deleted and substitute the attached title page.

Delete drawing sheets consisting of figures 1-25, and substitute the attached drawing sheets consisting of figures 1-25.

This certificate supersedes Certificate of Correction issued July 11, 2006.

Signed and Sealed this

Twenty-fourth Day of October, 2006



JON W. DUDAS
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Hydock

(10) **Patent No.: US 7,013,609 B2**
(45) **Date of Patent: Mar. 21, 2006**

(54) **MODULAR RADIANT HEAT PANEL SYSTEM**

(76) Inventor: **Gary J. Hydock**, 13199 Parker Rd., Holland, NY (US) 14080

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 306 days.

(21) Appl. No.: **10/087,318**

(22) Filed: **Mar. 1, 2002**

(65) **Prior Publication Data**

US 2003/0163965 A1 Sep. 4, 2003

(51) **Int. Cl.**
E04C 2/52 (2006.01)

(52) **U.S. Cl.** **52/220.1**; 165/49

(58) **Field of Classification Search** 52/406.2, 52/407.5, 414, 480, 607, 309.8, 403.1, 342, 52/220.1, 220.2, 220.3, 745.4, 684, 712; 219/213; 165/49, 48.2, 168, 169, 47
See application file for complete search history.

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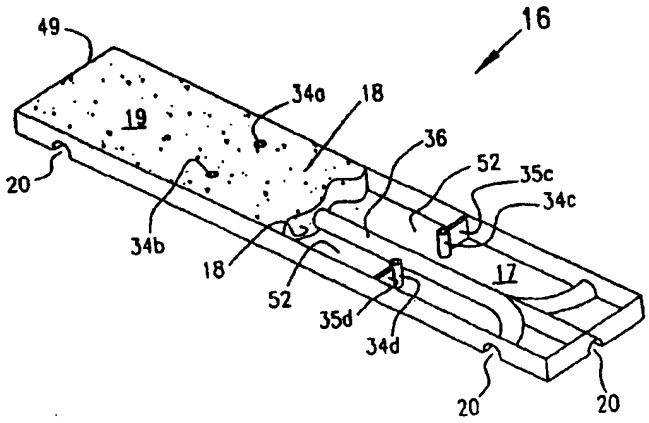
Primary Examiner—Gwendolyn Baxter
(74) *Attorney, Agent, or Firm*—Phillips Lytle LLP

(57) **ABSTRACT**

The invention is directed to modular radiant heat panel system. In the preferred embodiment, the system comprises multiple radiant heat transfer panels (16), each of the panels having a thermal mass (18) and a conduit channel (20); a fluid conduit (21), the conduit communicating with an apparatus (23) for heating fluid (22) in the conduit; the multiple panels positioned adjacent each other such that the conduit extends through a series of the conduit channels; the panels, conduit and apparatus so configured and arranged to permit heat transfer from the fluid to the thermal mass of the panel, whereby heat radiates from the panel. The present invention also discloses a radiant heat transfer panel for engagement with a fluid conduit comprising: a formed tray (24); the tray defining a thermal volume (17) and a conduit channel; the volume containing a thermal mass; and the channel, volume and thermal mass configured and arranged to permit heat transfer between the conduit and the thermal mass. The invention also discloses a method for installing a modular radiant heat panel system comprising the steps of: providing an under-layer having a given area (44); providing multiple panels having a thermal mass and a conduit channel; providing conduit; position the conduit over or under the under-layer in a predetermined pattern; and positioning the panels on or under the under-layer such that the conduit extends through at least a portion of the conduit channel of the panels.

8 Claims, 16 Drawing Sheets



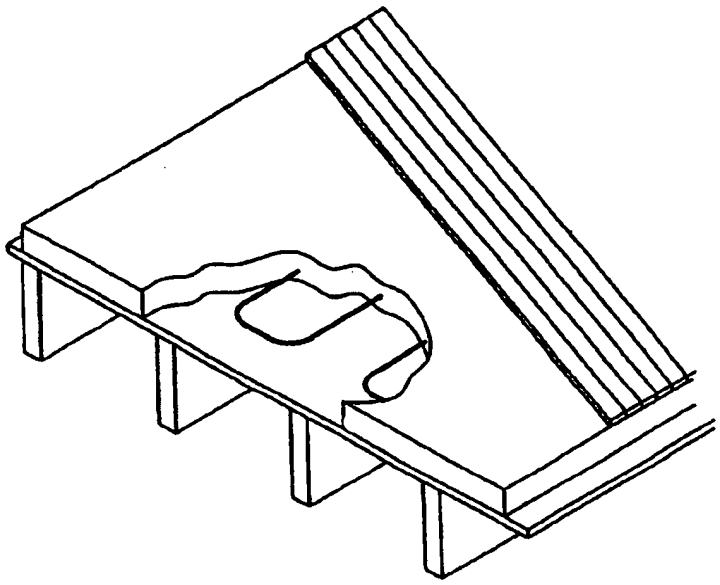


FIG. 1
(PRIOR ART)

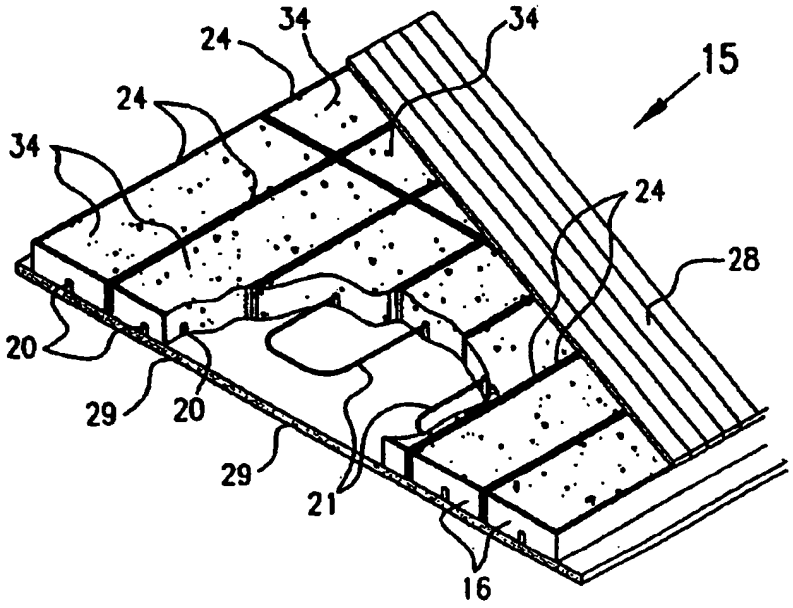
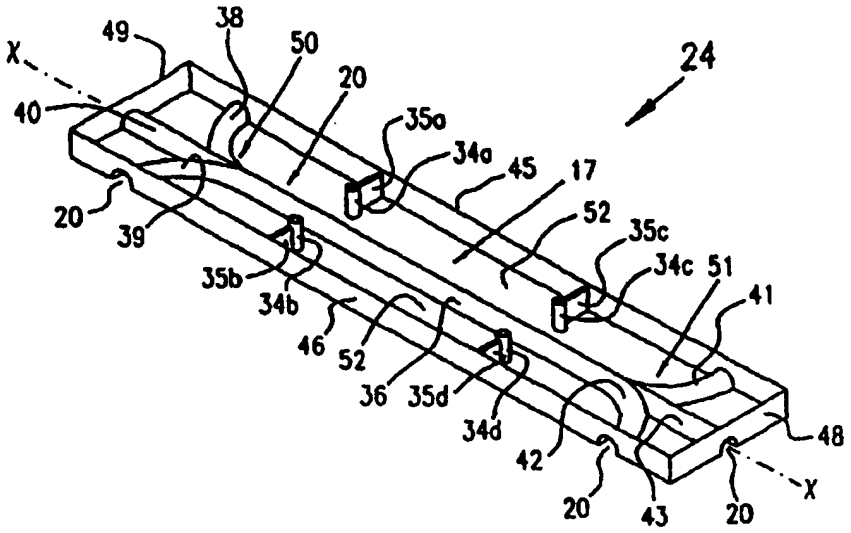


FIG. 2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38
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20
24
40
35a
34a
45
17
20
39
52
35c
35b
34c
51
34b
41
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52
36
35d
34d
48
42
X
20
43
20

FIG. 3

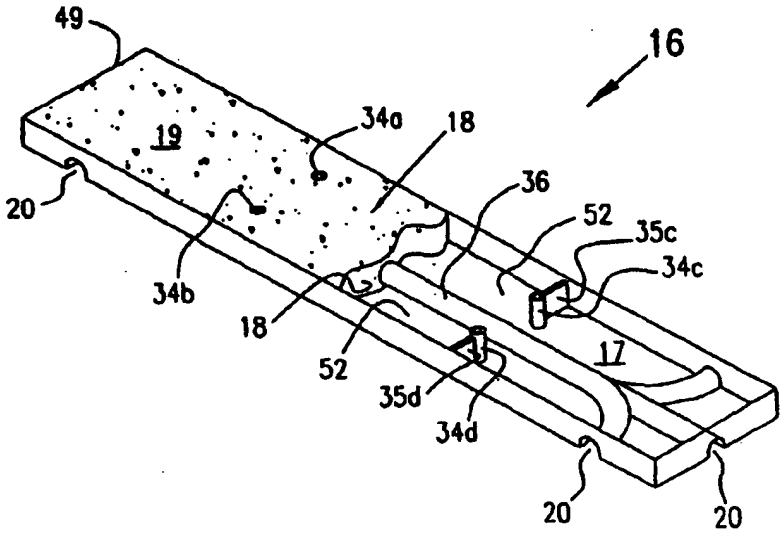


FIG. 4

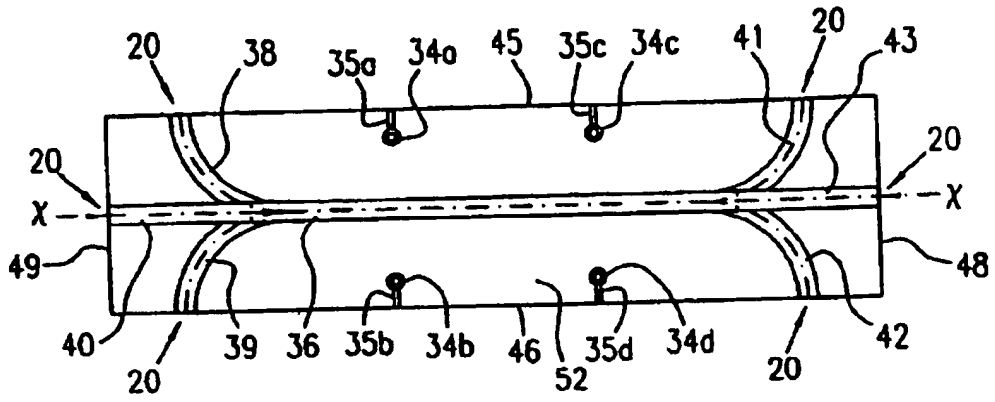


FIG. 5

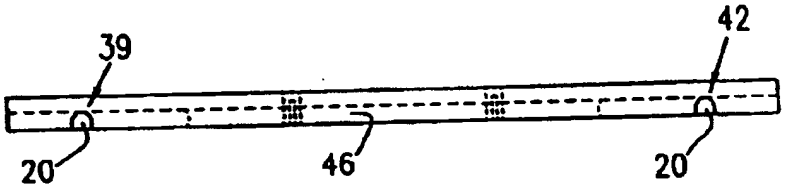


FIG. 6

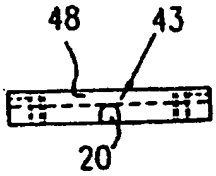


FIG. 7

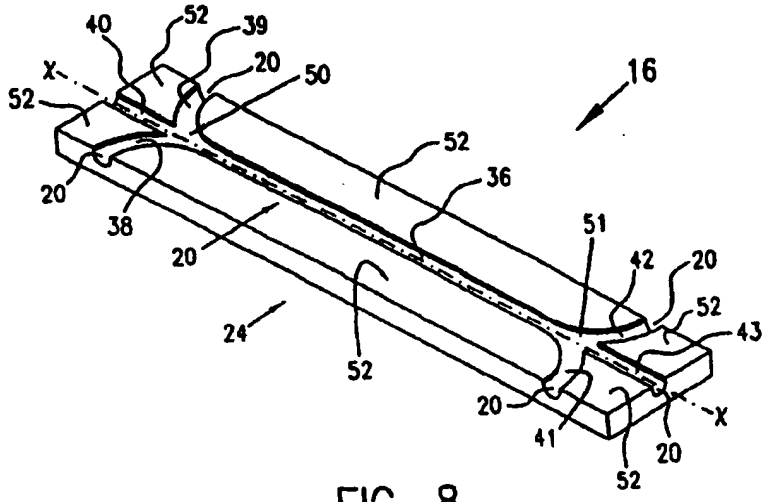
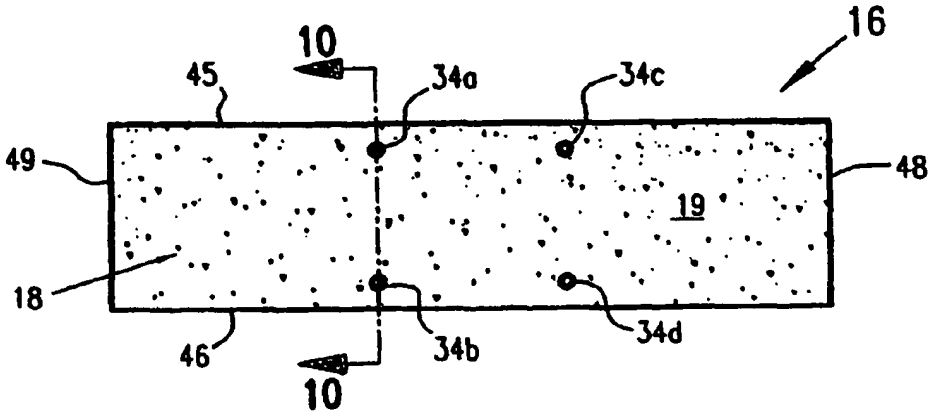


FIG. 8


16
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34a
34c
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18
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34b
34d
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FIG. 9

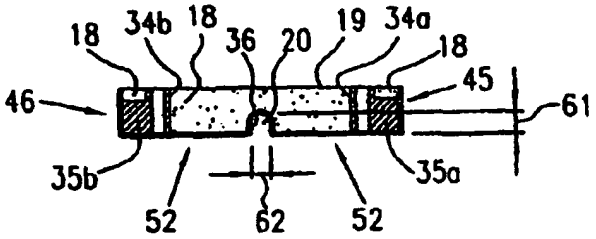
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FIG. 10

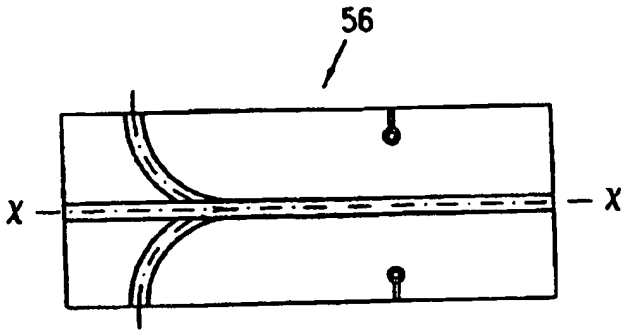

FIG. 11

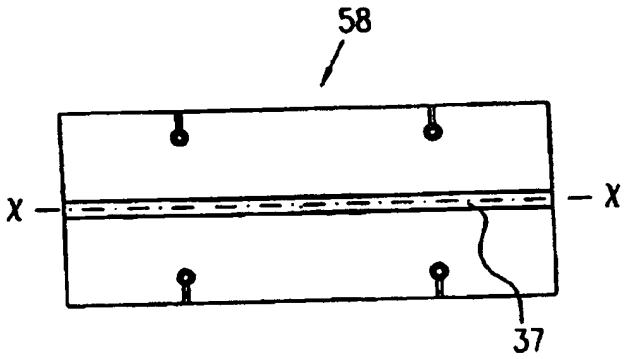

FIG. 12

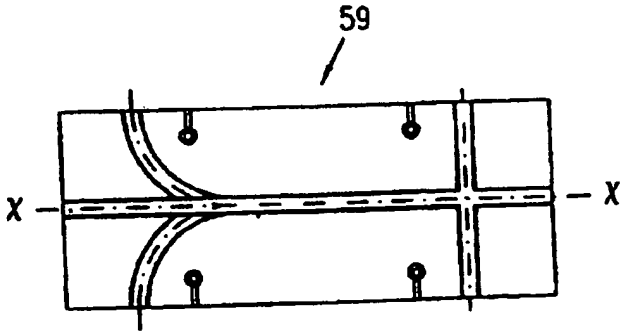

FIG. 13

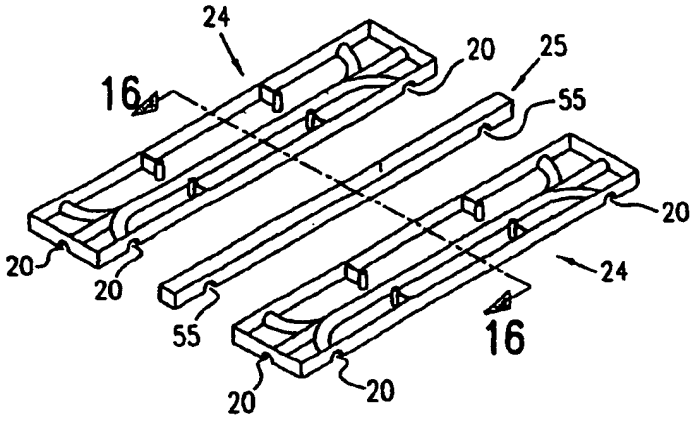

FIG. 14

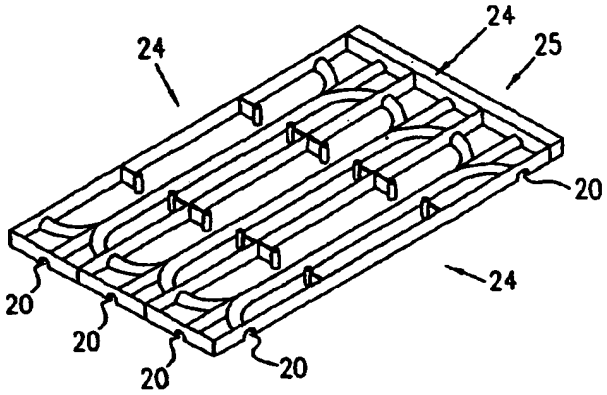

FIG. 15

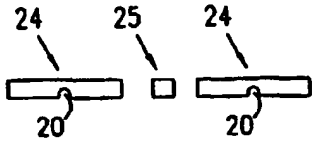

FIG. 16

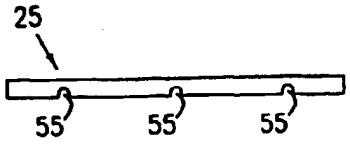

FIG. 17

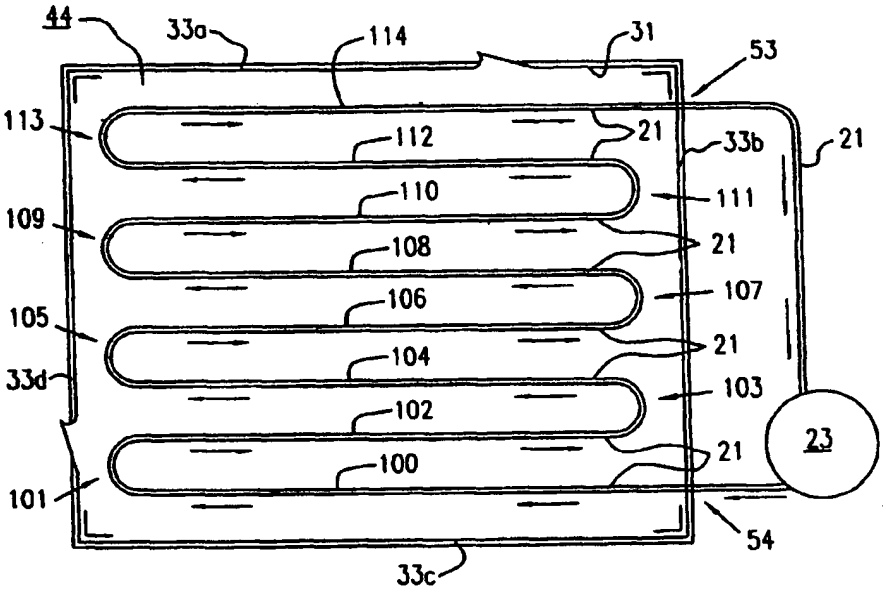
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FIG. 18

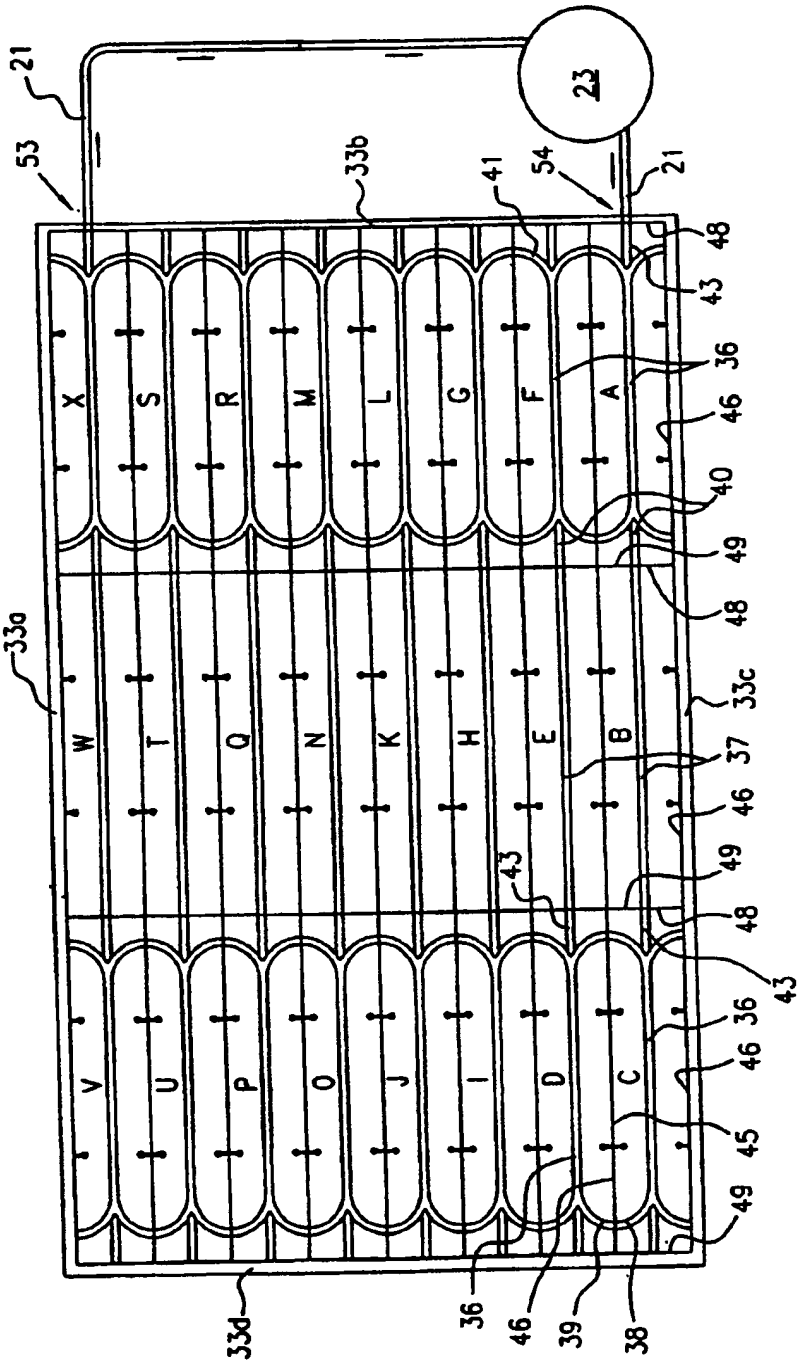
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FIG. 19

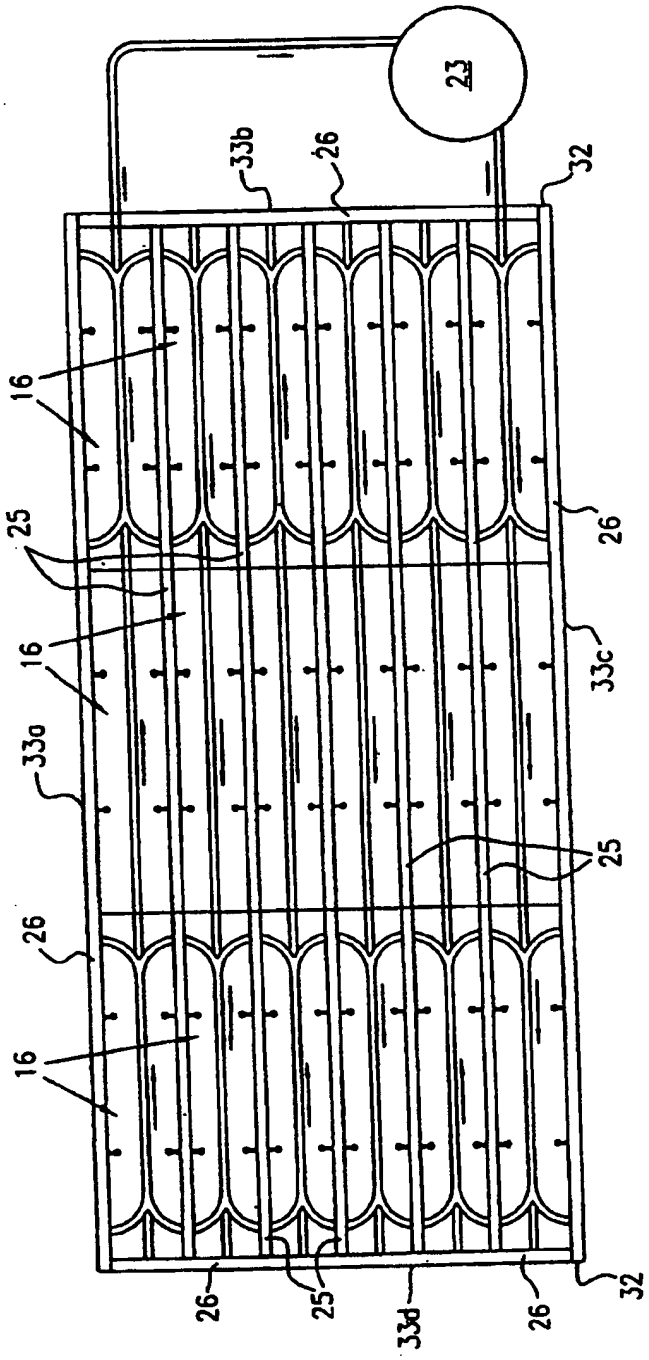

FIG. 20

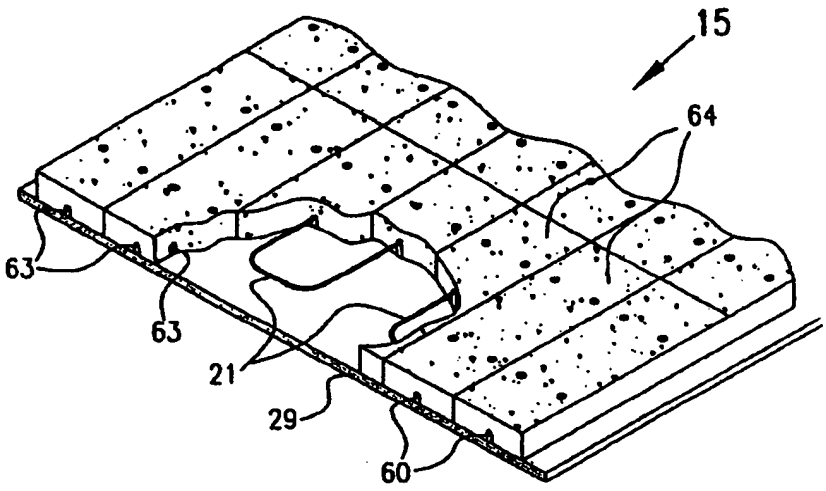

FIG. 21

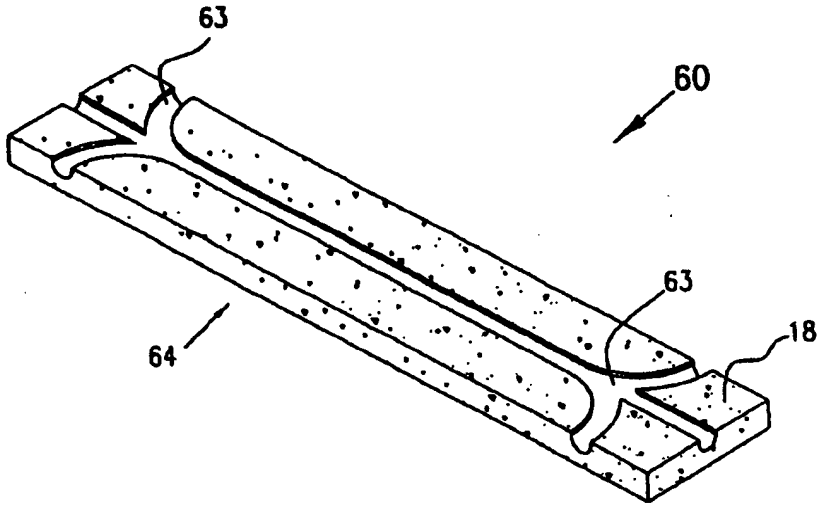

FIG. 22

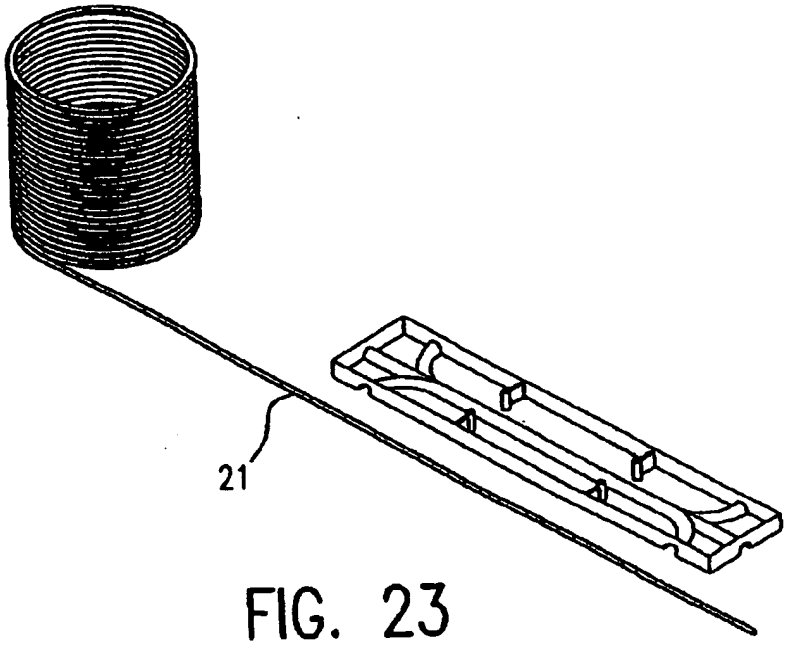

FIG. 23

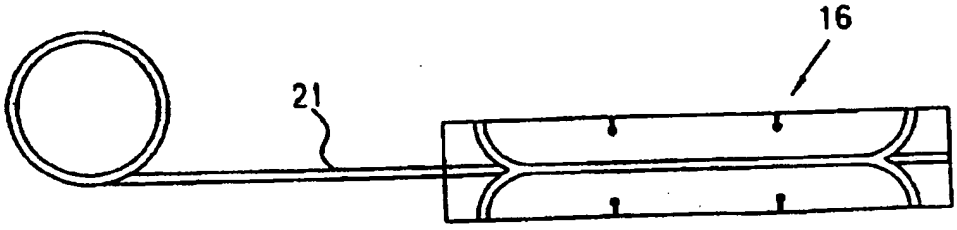

FIG. 24

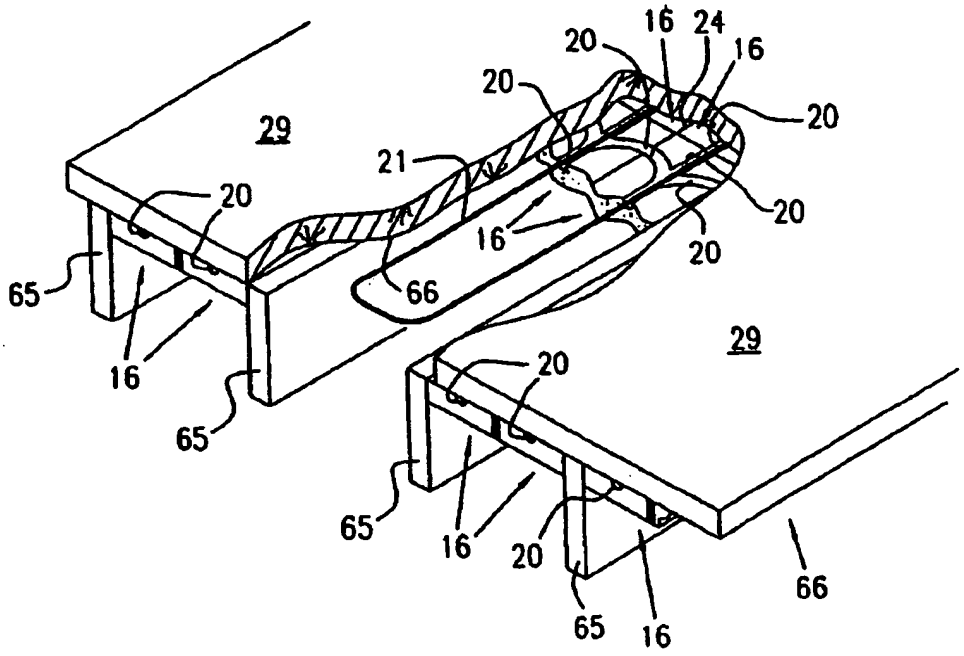

FIG. 25